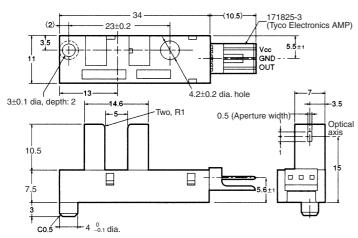
Photomicrosensor (Transmissive) EE-SX3009-P1/-SX4009-P1



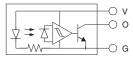
Be sure to read *Precautions* on page 24.

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



Internal Circuit



Terminal No. Name ٧ Power supply (Vcc) 0 Output (OUT) G Ground (GND) Unless otherwise specified, the tolerances are as shown below.

Dimensions	Tolerance
4 mm max.	±0.2
4 < mm ≤ 16	±0.3
16 < mm ≤ 63	±0.5

Features

- · Screw-mounting model.
- High resolution with a 0.5-mm-wide sensing aperture.
- With a 5-mm-wide groove.
- Photo IC output signals directly connect with C-MOS and TTL.
- Connects to Tyco Electronics AMP's El-series connectors.
- Dark ON model (EE-SX3009-P1)
- Light ON model (EE-SX4009-P1)

■ Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Rated value
Power supply volt	age	V _{CC}	10 V
Output voltage		V _{OUT}	28 V
Output current		I _{OUT}	16 mA
Permissible output dissipation		P _{OUT}	250 mW (see note)
Ambient temper-	Operating	Topr	–25°C to 75°C
ature	Storage	Tstg	–40°C to 85°C
Soldering temperature		Tsol	

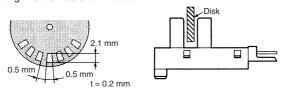
Note: Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

Recommended Mating Connectors: Tyco Electronics AMP 171822-3 (c 171822-3 (crimp connector) 172142-3 (crimp connector) EE-1005 (with harness)

■ Electrical and Optical Characteristics (Ta = 25°C, Vcc = 5 V ±10%)

Item	Symbol	Value	Condition	
Current consumption	I _{cc}	30 mA max.	With and without incident	
Low-level output voltage	V _{OL}	0.3 V max.	I _{OUT} = 16 mA Without incident (EE-SX3009-P1) With incident (EE-SX4009-P1)	
High-level output voltage	V _{OH}	(V _{CC} x 0.9) V min.	$V_{OUT} = V_{CC}$ With incident (EE-SX3009-P1) Without incident (EE-SX4009-P1), R _L = 47 k Ω	
Response frequency	f	3 kHz min.	$V_{OUT} = V_{CC}$, $R_L = 47 \text{ k}\Omega$ (see note)	

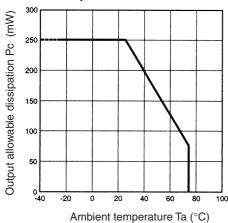
Note: The value of the response frequency is measured by rotating the disk as shown below.



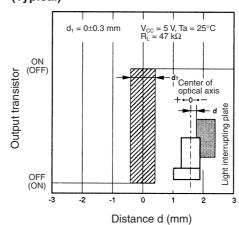
■ Engineering Data

Note: The values in the parentheses apply to the EE-SX4009-P1.

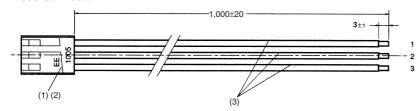
Output Allowable Dissipation vs. Ambient Temperature Characteristics



Sensing Position Characteristics (Typical)



EE-1005 Connector



No.	Name	Model	Quantity	Maker
1	Receptacle housing	171822-3	1	Tyco Elec- tronics AMP
2	Receptacle contact	170262-1	3	Tyco Elec- tronics AMP
3	Lead wire	UL1007 AWG24	3	

Wiring

Connector circuit no.	Lead wire color	Output when connected to EE-SX4009-P1/EE-SX3009-P1
1	Red	V _{CC}
2	Orange	GND
3	Yellow	OUT